

## Beach Pollution in the Southeast of Puerto Rico

Beaches in Puerto Rico are beautiful and important to our culture. They offer a variety of opportunities for recreation and enjoyment. Additionally, they create jobs and attract tourism. However, not every beach in Puerto Rico is as beautiful and attractive. Some are gravely polluted and hazardous to the health of everyone.

To analyze and mitigate these consequences we decided to investigate pollution on the beaches of Puerto Rico. We began the research by searching for an SDG appropriate for our topic. The SDGs are achievements proposed by the United Nations to protect the planet, human rights and achieve a good quality of life for all. This investigation on beach pollution is supported under objective 12. This objective is titled “Responsible Consumption and Production” and we chose this objective because it focuses on how we should be aware of the waste we produce to consume and the waste we produce after consuming.

In this investigation, we concentrated on Playa Mario in Maunabo and Playa Lucia in Yabucoa. We chose these beaches since they are not recognized and known by many people. Our goal was to observe the conditions of these beaches which reside in the southeast area of Puerto Rico. Furthermore, we wanted to identify what were the most common pieces of trash left behind on each beach. This way, we could propose specific solutions to prevent, treat and rehabilitate these coastal areas of Puerto Rico.

We went to the beaches and started to do fieldwork. Using gloves for safety reasons we began picking up trash and throwing them in trash bags. While doing this we wrote down what was found and the quantity to later make a statistical analysis. This analysis was made in a Microsoft Excel program. We made bar charts for each of the beaches that we visited.

We picked up approximately 277 items or pieces of trash in total. Both beaches were dirty but one was visibly more polluted and the data confirmed it. The results indicated that in both beaches approximately the same amount of trash was picked up. However, it also confirmed that Playa Lucía was more polluted than Playa Mario. At Playa Mario, we covered and cleared around 136 pieces of trash on an approximate area of 105 feet. On the other hand, at Playa Lucía, we picked up 141 pieces of trash only on an approximate area of 60 feet. We weren't able to clear the 60 feet at Playa Lucía because of the huge amount of trash and the overwhelming amount of small pieces of trash. Foam pieces, water bottles, and bottle caps were the most found pieces of trash.

After reviewing the results we thought of solutions to help with the pollution problem on these beaches. We believe that from a young age children should be educated on pollution and how much can humanity damage our ecosystem. This way a sense of protecting our environment can be constructed in the minds of everyone. Also, they could be taught about reusing, recycling, and reducing trash in a creative way. Another idea to reduce the contamination of beaches is to provide schools a list of beaches that need to be cleaned. This way students could be sent to complete their required green hours cleaning beaches. Since green hours are a requirement for graduation the students would benefit from having beach cleaning as an option to complete them as well.

To conclude our research it is of utmost importance that we raise awareness. We need to take care of our beaches and our overall environment. Most importantly we need to teach the younger generations how to do it. We can bring back a healthier island that everyone can enjoy. If everybody contributes and works hard we can make it happen.